

Homework 1

Find the limit (if it exists)

1. $\lim_{x \rightarrow 6} \frac{x^2 - 11x + 30}{x^3 - 16x^2 + 85x - 150}$

2. $\lim_{x \rightarrow 7} \frac{x}{\sqrt{x+2} - 3}$

3. $f(x) = 2x + 3, g(x) = \cos x$

(a) $\lim_{x \rightarrow 3} f(x)$ (b) $\lim_{x \rightarrow \frac{\pi}{3}} g(x)$ (c) $\lim_{x \rightarrow -\frac{17}{12}\pi} g(f(x))$